

Applicant: Taylor
Application Serial No.: Unassigned
Filing Date: Herewith
Docket No.: 577-511 DIV
Page 3

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-30 (canceled)

Claim 31 (new): A method for determining a phase angle relationship between capacitive test points, comprising the steps of:

receiving a first waveform indicating the presence of a voltage at first capacitive test point;

receiving a second waveform indicating the presence of a voltage at a second capacitive test point;

comparing the first and second waveforms with respect to time;

measuring a phase angle difference between the first and the second waveforms; and

determining the phase angle relationship between the first and the second capacitive test points based on said phase angle difference.

Applicant: Taylor
Application Serial No.: Unassigned
Filing Date: Herewith
Docket No.: 577-511 DIV
Page 4

Claim 32 (new): The method of claim 31, further comprising:

displaying the phase angle relationship between the first and second capacitive test points.

Claim 33 (new): The method of claim 31, wherein the phase angle difference determines whether the voltages at the first and the second capacitive test points are in phase.

Claim 34 (new): The method of claim 31, wherein the phase angle difference determines whether the voltages at the first and the second capacitive test points are out of phase.

Claim 35 (new): The method of claim 31, wherein the phase angle difference is independent of voltage values at the first and second capacitive test points.

Claim 36 (new): The method of claim 31, wherein the phase angle difference is independent of contamination at first and second capacitive test points.

Claim 37 (new): An apparatus for detecting a phase angle relationship between two capacitive test points, comprising:

Applicant: Taylor
Application Serial No.: Unassigned
Filing Date: Herewith
Docket No.: 577-511 DIV
Page 5

a first amplifier having an input and output, including a first resistor connected to the input of the first amplifier for providing a low input impedance at the first amplifier;

a first voltage channel connected to the input of the first amplifier for receiving first voltage signal from a first capacitive test point;

a second amplifier having an input and output, including a second resistor connected to the input of the second amplifier for providing a low input impedance at the second amplifier;

a second voltage channel connected to the input of the second amplifier for receiving second voltage signal from a second capacitive test point;

a power on self-tester coupled to send test voltage signals to the first and second amplifiers for testing the functionality of the apparatus;

a first output voltage signal received from the output of the first amplifier;

a second output voltage signal received from the output of the second amplifier;

a phase detector coupled to receive the first and second output voltage signals, wherein the phase detector determines a phase angle difference between the first and the second output voltage signals;

a state detector coupled to receive the first and second output voltage signals; and

a switch connected to the state detector.

Applicant: Taylor
Application Serial No.: Unassigned
Filing Date: Herewith
Docket No.: 577-511 DIV
Page 6

Claim 38 (new): The apparatus of claim 37, wherein the phase angle difference determines whether voltages at the first and second capacitive test points are in phase.

Claim 39 (new): The apparatus of claim 37, wherein the phase angle difference determines whether voltages at the first and second capacitive test points are out of phase.

Claim 40 (new): The apparatus of claim 37, wherein the phase angle difference is independent of voltage values at the first and the second capacitive test points.

Claim 41 (new): The apparatus of claim 37, wherein the phase angel difference is independent of the contamination at the first and the second capacitive test points.

Claim 42 (new): The apparatus of claim 37, wherein the first and second resistors are in the magnitude of tens of kilohms.

Claim 43 (new): The apparatus of claim 42, wherein the first and second resistors are measured at 22 kilohms.

Applicant: Taylor
Application Serial No.: Unassigned
Filing Date: Herewith
Docket No.: 577-511 DIV
Page 7

Claim 44 (new): The apparatus of claim 37, wherein the state detector accurately indicates that a voltage is present at the first and second capacitive test points.

Claim 45 (new): The apparatus of claim 44, wherein the state detector sends a signal to the phase detector when the voltage is present at the first and second capacitive test points.